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Abstract

Cheating, operationally defined as the falsification of scores on a word construction task, was found, as predicted, to be influenced by achievement anxiety and knowledge of the performance of a peer reference group in 111 high school Ss. However, achievement anxiety was positively correlated with cheating only when knowledge of reference group performance was provided. Likewise, providing Ss with knowledge of the reference group's superior or inferior performance elicited cheating only at high anxiety levels. The results are interpreted in terms of the general hypothesis that cheating is a response instrumental to the avoidance of aversive social consequences.

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Several recent studies implicate achievement anxiety and knowledge of the performance of successful peers in the instigation of deviant achievement responses. Gilligan (1963) found that scores on the Test Anxiety Scale for Children (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960) were positively associated with cheating on a ray gun game (Grinder, 1961) in which success is impossible without commission of proscribed responses. The test anxiety scores were interpreted as a measure of fear of failure and cheating was seen as a means of avoiding failure. Using the same ray gun task, Hill and Kochendorfer (in press), Shelton (1967, 1968) and Saravay (1968) have found that the incidence of cheating is greater when Ss are informed about the successful performance of peers than when they are not. Taylor and Lewit (1966) obtained similar results using a strength of grip task with adolescent boys. The Ss who were made aware of superior performance by a peer (actually a confederate of E) falsely inflated their scores more than did those who received no such information. Findings from these studies have led to the general hypothesis that the provision of information about successful peer performance in the presence of failure leads to

the anticipation of aversive social consequences and that cheating is to be understood, in part, as a response instrumental to the avoidance of those consequences. Achievement anxiety scores could then be related to cheating because they reflect a generalized expectancy of such negative consequences in the face of failure. This position is consistent with the finding of McGhee and Teevan (1965) that children high in fear of failure characteristically receive parental punishment for failures but neutral reaction to successes.

This hypothesis emphasizes the explicitly social nature of the instigation to cheat. Specifically, introduction of some standard for performance for group members may be interpreted to motivate efforts for success for the purpose of attaining social goals, such as acquisition and maintenance of status among peers. If attaining such goals is perceived by S to be contingent upon success relative to the standard, then imminent task failure should lead to cheating in order to appear to have performed adequately. The results of Hill and Kochendorfer (in press) and of Shelton (1967) support this proposition. In addition, these studies, taken together, indicate that the more specific the information provided about peers, the stronger is the tendency to respond by cheating. Naming the peers for whom scores are provided elicits more cheating than does a general statement about the typical performance of group members. Apparently the provision of information about peers' superior performance supplies a meaningful standard and thus sensitizes Ss to the possibility of unfavorable comparison.

The present study is directed toward obtaining information about the generality of the results on which this hypothesis is based, pursuant to more direct future tests of the hypothesis. Achievement anxiety and knowledge of peer performance have not been studied concurrently. On the basis of the past studies, we can predict that achievement anxiety scores will be correlated positively with cheating and that a higher incidence of cheating will occur among Ss who have knowledge of peers' superior performance than among those who have no such knowledge. However, studying the two variables concurrently may show that the predicted effects require qualification: It may be that the effect on cheating of knowledge of peer performance is stronger in or is present only for highly anxious Ss or that anxiety scores are related to incidence of cheating only when information about peer performance is provided.

Basic to our position is the assumption that cheating is an instrumental response to an actual or subjectively probable discrepancy between own performance and a consensually recognized standard. It should follow, then, that Ss who cheat are highly attuned to any socially relevant standards of performance and, likewise, to the nature of their standing relative to those standards. However, it may be that the possibility of social comparison itself rather than failure leads to the anticipation of aversive consequences. If Ss who are "successful" relative to peers are as likely to cheat as those who "fail" relative to peers, then knowledge of peer performance itself, rather than favorable and unfavorable comparisons, would be implicated in the instigation of cheating.

Indirect support for the position that Ss utilize cues from the achievement situation about the quality of their performance comes from another of Hill and Kochendorfer's (in press) results. They found that almost all of the Ss who cheated delayed cheating until the second five trials in a series of ten. Apparently these Ss changed strategies only when a negative task outcome seemed certain. This interpretation leads to the prediction that provision of feedback indicating successful performance will reduce markedly the frequency of cheating relative to feedback indicative of failure. Similarly, it is predicted that a reduction in cheating, although of lesser magnitude, will accompany knowledge of success relative to no provision of knowledge of peer performance. Presumably information that one has been successful minimizes the need to act in order to avoid the appearance of failure. However, not having such information leaves S uncertain about his relative standing and thereby increases the salience of possible failure, especially if he is highly anxious about failure.

The present study was designed to test the predictions above by implementing Success, Failure, and No Peer Information (Control) conditions and assessing achievement anxiety in the Ss. Although based largely on results from studies using the ray gun task, our study departs from the ray gun methodology in two important ways. First, the latter studies have provided an external standard against which S can measure his own performance; a stated number of points was required in order for S to win a badge. It is in addition that Ss were confronted with the fact that their peers had attained that standard while they had not.

Thus, it is not clear whether knowledge of successful peer performance would, in the absence of an adult-provided standard, instigate cheating. In the present study, the only standard provided was that defined by peer performance. Second, we decided to assess cheating in an academic rather than game situation and to study adolescent Ss of both sexes rather than preadolescent boys alone. Should achievement anxiety and knowledge of peer success predict to cheating under these new conditions, then our purpose of obtaining information about the generality of previous findings will have been realized.

Method

The 49 boys and 62 girls in 5 sophomore and junior college preparatory classes in 2 high schools participated in this study. Two male graduate students served as Es. In the first session, Ss in their regular classrooms were administered 3 tasks. First, they were asked to construct as many English words as possible in 8 minutes from the letters in the word "generation." The successful manipulation of peer knowledge required that Ss' perceptions of their own academic competence relative to that of peers be minimized. Consequently the novelty of this task was stressed: "Today you are going to take a test of a different kind. A number of people are interested in what is involved in creativity or originality in thinking. Some think it is the ability to take familiar things and use them or parts of them in entirely new ways. The questions in most tests have only one right answer. This means taking all of the information given, putting it together, and finding the one right answer.

This kind of test does not measure creative, original thinking. The test you are about to take is a test which does measure creative thinking. It is designed to measure creativity by seeing how well students can rearrange the same set of letters into meaningful combinations." Following this word construction task Ss were administered the Achievement Anxiety Test (AAT) using the instructions provided by Alpert and Haber (1960) plus the following additional statement: "One of the things that might influence how you perform on tests is the general way that you feel about them. Your score on a test of creativity, for example, may be partly determined by what you think of tests per se rather than only by how original you actually are. Thus, I need to know what your feelings about tests really are." When the AAT booklets had been collected, Ss were given test booklets and standard instructions for the French Test of Insight (FTI; French, 1958).[2] The session was timed so that Ss could not complete this story-writing task, thus providing a rationale for returning on the following day for a second session.

During the inter-session interval, the number of words written by each S was recorded and the AAT was scored. Three classrooms were arbitrarily selected for the manipulation of knowledge of peer performance. The Ss in these classrooms were listed in rank order of scores on the Debilitating Anxiety Scale of the AAT (DAAT) and, in order to equate experimental groups for anxiety level, were assigned serially from this rank-ordering to Success or Failure conditions. Implementation of these conditions required the preparation of information to be given

S about the alleged performance of a reference group. In order to hold constant the discrepancy between S's performance and the alleged reference group's performance the latter was keyed to each S's actual performance. For the Success condition, average reference group performance was established at a level from 5 to 7 words below the number of words S wrote. Similarly, for the Failure condition, average reference group performance was established at a level from 5 to 7 words above the number of words written by S. For the remaining 2 classrooms (Control condition) no reference group information was prepared.

In the second session, Ss completed 2 additional story-writing items. Then, the test forms containing the words constructed from the word "generation" were returned unmarked and apparently undisturbed. In addition, a complete list of the words possible from the word "generation" was distributed together with purported average reference group performance, if any, appropriate for each S. In order to prevent Ss from seeing other Ss' reference group information, it was embedded in a single-spaced, paragraph-long statement. In this statement, the reference group was described as consisting of "good students from a good high school" and it was indicated that students who wrote as many words as these students tended to do well in college. The E suggested that by scoring their own papers Ss would know immediately how well they had done and would be assisting him as well. After making it clear that Ss would be able to keep their original lists, E instructed them to circle on the complete list those words they had constructed previously and to indicate in the space provided the number of words written. After the complete lists

were collected, Ss in the experimental groups were told that the reported reference group scores were fictitious and that performance on this task alone was not an adequate measure of creativity.

Results and Discussion

Adolescents of both sexes were sufficiently involved with their performance on the word construction task to falsify their reported scores; of the 111 Ss 59 or 53% cheated. In the present study, Ss in the Failure condition received information about peer success similar to that given Ss in the ray gun studies. Of these Ss 61% cheated, a proportion comparable to the two-thirds of Ss in the ray gun studies who have falsely inflated their reported performance (Gilligan, 1963; Grinder, 1964; Mischel & Gilligan, 1964; Hill & Kochendorfer, in press). There were no sex differences in anxiety scores, in the incidence of cheating within or across experimental conditions, nor in the relation between anxiety and cheating. Thus data from the two sexes are combined in all analyses reported below.

The Ss were assigned to High (H), Middle (M), and Low (L) anxiety levels on the basis of their DAAT scores. Fortunately for the purposes of interpreting the cheating data, anxiety was not correlated with task performance in the first session. As predicted, anxiety scores proved to be associated positively with the incidence of cheating: H vs. M, $\underline{CR} = 2.30$, $p = .01$; H vs. L, $\underline{CR} = 3.66$, $p < .001$; M vs. L, $\underline{CR} = 1.49$, $p = .07$. The biserial correlation between anxiety and cheating, across experimental conditions, was .45. These results confirm the relation between cheating and anxiety suggested in Gilligan's (1963) findings. They also represent

support for the position that cheating is a response instrumental to the avoidance of the appearance of failure; the level of S's tendency to feel anxious (uncomfortable, anticipating unfavorable consequences) in evaluative situations, as indexed by his DAAT score, is related directly to the likelihood that he will cheat. However, further analysis indicated that this effect holds only when knowledge of peer performance is provided; level of anxiety did not predict to cheating among Ss who received no information about peer performance. [Among Ss in the Success (H vs. L, CR = 2.66, p = .004)

Insert Table 1 Here

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and in the Failure (H vs. L, CR = 2.64, p = .004) conditions, cheating was positively associated with level of anxiety, but this relation disappeared in the Control condition (H vs. L, CR = 1.21, p = .11).] Thus, the tendency to feel anxious in evaluative situations is not a condition sufficient to the occurrence of cheating. It may be hypothesized that the possibility of (unfavorable) social comparison must also be present.[3]

Although knowledge of peers' superior performance did relate positively to the frequency of cheating, as had been found by Hill and Kochendorfer (in press) and by Shelton (1967), the strength of this relation (Failure vs. Control, CR = 1.49, p = .07) is not great relative to that which emerged from the earlier investigations. As mentioned above, a similar discrepancy in the magnitude of the "knowledge" effect on cheating was observed between the Hill and Kochendorfer and the Shelton studies

and appears to be a function of the specificity of the knowledge of peer performance provided. The relative weakness of the effect of the present Failure condition is consistent with this interpretation. In contrast with the earlier studies, the reference group utilized was not the immediate group of classmates. Specific comparison with other individuals or less specific comparison in terms of relative standing within the school or class was not provided. Thus, the effectiveness of the Failure manipulations in these three studies appears to reflect directly the degree to which the normative information approximates direct comparison with peers known to S.

The present findings also indicate, however, that peer knowledge induces cheating only among Ss with moderate to high levels of anxiety. The effect of the peer knowledge manipulations on cheating differed at each of the three anxiety levels. Among Ss with high anxiety, more cheating occurred in the Success and Failure conditions than in the Control condition (Success vs. Control, CR = 1.82, p = .03; Failure vs. Control, CR = 1.45, p = .07). Among moderately anxious Ss, only the Failure vs. Control comparison proved significant (CR = 1.61, p = .05). There were no differences between conditions among the Ss with low anxiety. Thus, the hypothesis that knowledge of peer performance is an instigator of cheating behavior must also be qualified; the presence of this factor does not constitute a sufficient condition for cheating. The effects of knowledge of peer performance on cheating reported by Hill and Kochendorfer (in press) and by Shelton (1967) are probably attributable to Ss with relatively high levels of achievement anxiety.

The frequency of deviant achievement responses is maximal when Ss exhibit a high level of achievement anxiety and a standard for performance is provided. Conclusions regarding the relative importance of achievement anxiety and knowledge of peer performance in the instigation of cheating must await direct manipulation of the reference group variable. The possibility that the anxiety variable is more salient that the "knowledge" variable is precluded by the relatively weak norm manipulation employed. Had classmates' names and scores been provided, it is plausible that the proportion of Ss with low anxiety but knowledge of peer performance who cheated would have been at least as large as that obtaining for Ss with high anxiety but without such information.

The hypothesis that less cheating would be encountered in the Success as opposed to the Control condition was not confirmed at any anxiety level. Indeed, both Success and Failure elicited comparable levels of cheating from Ss with high anxiety. Evidently knowledge of peer performance itself and not an unfavorable discrepancy between peer performance and own performance instigates cheating for the highly anxious S. For this group, knowledge of peer performance *per se* may induce cheating because it is sufficient to cue an expectation of aversive consequences. That is, in evaluative situations, high anxious Ss may anticipate negative outcomes and therefore aversive consequences even when available information suggests a more positive prognosis. It appears that this generalized anticipation instigates cheating as an attempt to appear to have performed at a *more* successful level than that actually attained. This explanation

contrasts with the argument that cheating is motivated by the desire to appear to be successful. The latter alternative assumes that appearing successful entails reacting to a standard in such a way that the public outcome exceeds that standard. Obviously such is not the case for cheating in the Success condition. Highly anxious Ss tend to falsify their performance levels, but by amounts not related to the available standards, at least when those standards derive from a secondary reference group. Those experiencing either "knowledge" condition who cheat apparently do so in order to appear more successful in an absolute sense. This interpretation is not inconsistent with the position that cheating is a response strategy instrumental to the avoidance of negative consequences anticipated for failure. Rather, the deceptively gained increment would seem to function (subjectively or objectively) to lessen the probability of being judged as a failure by S's primary reference group.

In contrast with highly anxious Ss, moderately anxious Ss appear to be influenced by the informational value of peer knowledge rather than by the fact of feedback per se; only unfavorable discrepancies between peer performance and own performance elicit cheating. Confirmation of the prediction of a Failure effect at this anxiety level suggests that moderately anxious Ss may be less generally disposed to anticipate failure and its aversive consequences than are highly anxious Ss, at least without concrete or clear cut evidence of the imminence of failure. For Ss with moderate anxiety, the Success and Failure manipulations apparently

created different evaluative situations with only Failure portending poor performance relative to the reference group. However, unfavorable comparison, even with unknown others, did increase the incidence of cheating among these Ss.

The Ss with low anxiety simply were not influenced by the norm manipulations employed. Such differential responsiveness to normative information encountered at each anxiety level provides construct validation for the interpretation that anxiety scores index differences in basic perceptions or conceptions of evaluative situations. Developmentally, it may be held that discrepant reinforcement histories for failure lead to differential cognitive dispositions to deal with achievement situations. McGhee and Teevan's (1965) observation that children who score high and low on measures of fear of failure characteristically have experienced very different consequences for failure has already been noted. In the present case, Ss with low anxiety exhibit the least generalized expectation of aversive consequences for failure; unfavorable comparison with personally unknown others is not sufficient to induce cheating for them.

Whereas high anxious Ss may be seen to be susceptible to influence by information from any source which indicates that they will be compared with others, adolescents with low anxiety may be affected only by actual comparisons that develop within the immediate peer reference group. Evaluation of members' performance in activities of concern to the immediate reference group does take place and status and prestige in the group is

to a large extent contingent upon adequate performance in terms of the group's standards. In the present data 2 findings are relevant to this point. First, approximately one-third of the low anxious Ss cheated regardless of the norm condition encountered and this proportion was not significantly different from that of Ss in the Control condition at the other anxiety levels. Also, more Ss with low than with high first day performance scores cheated (CR = 1.85, p = .06, 2t). Interpreting this finding requires the assumption that social comparison took place after the first session; only when placed relative to the performance of others could a given score convey evaluative information. Ample opportunity for comparison of task scores was available prior to the second session, and it may be presumed that at least some such communication did take place. Thus, it seems reasonable to suggest that the frequency of cheating observed among low anxious Ss and among Ss in the Control condition was motivated in part by the desire not to appear to have compared unfavorably with specific peers.

The relative weakness of the negative relation between task performance and cheating may well be due to the use of the median score for defining high and low performance for all Ss. That the median score represents the dividing line between perceived success and failure is not at all apparent. More important, however, the criterion employed ignores the influence that specificity of peer comparison seems to exert on the instigation of cheating. Also, it does not take into account findings (e.g., Wyer, 1966) which indicate that the status of referent individuals

is a determinant of S's mode of reaction to normative information. Influential individual comparisons of level of performance are likely to be confined to a relatively small group of "significant others." In the present case actual comparisons were possible only in the range of personal contacts. Several informal subgroups no doubt exist within the larger sample. In effect, then, several, independent sets of performance "norms" probably were established to which the median performance score is related only in the most gross manner.

The interpretation offered here for the role of task performance in the instigation of cheating is essentially speculative; there are no data at hand which bear directly on the issue of specific comparison with individuals of known status relationships to S. Resolution of this issue will require manipulation of the status level of peers about whom performance information is provided to S and also measures of "other-directedness," e.g., n Affiliation, social desirability, or locus of control, each or all of which may be reflected only partially in measures of test anxiety.

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Footnotes

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2. Originally, a secondary purpose of this study was to explore the relation between n Achievement and cheating. However, the low incidence of achievement imagery obtained on the FTI precluded such an analysis.

3. Ss' scores on the Facilitating Anxiety Scale of the AAT also were analyzed in relation to cheating. The results, for the most part, were a mirror image of those obtained for the DAAT and were not unexpected in view of the negative correlation between the two scales ($r = -.42$; $p < .001$). Although this inverse ordering held in almost every instance, many of the contrasts that were significant using the DAAT were not significant for the Facilitating Anxiety Scale. On the other hand, no significant contrasts emerged using the latter scale that were not also significant using the DAAT.

Table 1

Percentages of Ss with High, Low and Moderate Debilitating Achievement Anxiety Who Cheated Under Success, Failure and Control Conditions

Level of Anxiety	Experimental Condition			
	Success	Failure	Control	All Conditions
High	91 (N = 11)	83 (N = 12)	57 (N = 14)	76 (N = 37)
Moderate	43 (N = 14)	69 (N = 13)	36 (N = 11)	50 (N = 38)
Low	36 (N = 11)	31 (N = 13)	33 (N = 12)	33 (N = 36)
All Levels	56 (N = 36)	61 (N = 38)	43 (N = 37)	53 (N = 111)